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Children with Speech Sound Disorders at School: Challenges for Children, Parents and Teachers

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Abstract: Teachers play a major role in supporting children's educational, social, and emotional development although may be unprepared for supporting children with speech sound disorders. Interviews with 34 participants including six focus children, their parents, siblings, friends, teachers and other significant adults in their lives highlighted challenges for these children in school, and challenges for their parents and teachers in meeting these children's developmental and educational needs. These challenges were centred on the need for specific expertise in the school setting, and access to additional classroom and professional services to support these students' engagement in the learning and social environments of school. This research identifies frustrations that impact these families and teachers as they attempt to navigate the bureaucracies to which they are beholden.

Introduction

The early years of schooling are a significant time in children's development, with implications for their educational achievement, future lives, and society (Grunewald & Rolnick, 2007). According to Bronfenbrenner's Ecological Theory (Bronfenbrenner, 1994), children experience the world within a series of nested spheres of influence, or systems, that provide the contexts in which the child develops. These systems extend outward from the immediate relationships the child experiences with family and friends (microsystem), to their relationship with others in their neighbourhood and community (exosystem), and their experiences in broader society (macrosystem). The systems interrelate with each other, and the child experiences bidirectional relationships of influence within each sphere. The mesosystem represents the network of relationships between those in the microsystem who work to meet the needs of the developing child, and provide support for families in this endeavour. Along with other professionals, teachers form part of this mesosystem, providing a resource and source of support in meeting the child's educational and developmental needs.

While most children are competent communicators by school-age, some do not have speech and language skills that are equivalent to their peers (McLeod & McKinnon, 2007). For these children, their speech and language competence can limit their engagement with others in social and learning environments (Botting & Conti-Ramsden, 2000; McCormack, McLeod, McAllister & Harrison, 2009; McCormack, Harrison, McLeod, & McAllister, 2011; McLeod, Daniel & Barr, 2013). Article 29 of the United Nations (UN) statement on The Aims of Education, originally adopted in 2001, identifies that the goal of schooling is to "empower the child by developing his or her skills, learning and other capacities, human dignity, self-esteem and self-confidence" (UN, 2001). The provision of high quality

education that promotes the holistic development of the individual, then, is an important function of schools. In achieving the goals of these conventions, the UN identifies that educational programs need to “...ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (UNESCO, 2015, n.p.). That is, teachers need to be prepared with the understandings and skills required to provide learners with relevant learning experiences, in an educational environment that supports the development of all children’s “...personality, talents and mental and physical abilities to their fullest potential” (UN, 2001, n.p.).

In meeting the aims of education and the principles of inclusion underpinning the United Nations and UNESCO statements, school systems need to ensure the availability of resources required to support children’s learning needs, and teachers need to be aware of the educational needs of students. Teachers from a range of countries including the United Kingdom and Australia have reported that meeting the needs of children with speech and language difficulties is particularly challenging (Dockrell & Lindsay, 2001; Marshall, Ralph & Palmer, 2002; McLeod & McKinnon, 2010). For example, teachers of 14,533 Australian students indicated that of “the nine areas of additional learning need, presence of a communication disorder was the most important predictive factor of teachers’ recommendation that primary or secondary students required a high level of support at school” (McLeod & McKinnon, 2010, p. 123). Teachers have indicated that they require additional professional development to close gaps in their knowledge, and additional support to meet the needs children of children with speech and language disorders (Dockrell & Lindsay, 2001).

The research reported here applied qualitative research methods to investigate the learning and schooling experiences of a sample of children with speech sound disorders in order to better inform parents, teachers and other professionals who may be involved in supporting their education and development. The research was conducted in an Australian state where speech-language pathology services were not provided within schools, and many of the children’s needs were not deemed to be severe enough to access other educational funding or support services.

Children with Speech Sound Disorders

Children with speech sound disorders have difficulties with the production of intelligible speech and “can have any combination of difficulties with perception, ... production, and/or ... representation of speech ... that may impact speech intelligibility and acceptability ... of both known (e.g., Down syndrome, cleft lip and palate) and presently unknown origin” (International Expert Panel on Multilingual Children’s Speech, 2012, p. 1). The term *speech sound disorders* is used widely, and encompasses the terms speech/articulation/phonology delay/disorder/impairment as well as childhood apraxia of speech (McLeod & Baker, 2017). An international meta-analysis has identified “speech delay” as affecting between 2.3% and 24.6% of children (Law, Boyle, Harris, Harkness & Nye, 2000). In the US 74.7% of 6,624 Pre-K students across 25 states enrolled in education-based programs were receiving speech-language pathology services for “articulation/intelligibility” (Mullen & Schooling, 2010). In Australia 12.0% of 4- to 5-year-old children were identified with speech that was “not clear to others” (McLeod & Harrison, 2009) and 3.4% of 4-year-olds were clinically identified as having speech sound disorders (Eadie et al., 2015). A community study of Australian preschool children found 51.4% of children with clinically identified speech sound disorders had not received specialist targeted services (McLeod, Harrison, McAllister & McCormack, 2013).

Children with speech sound disorders are more likely to have reduced social and educational outcomes than typically developing children (Felsenfeld, Broen & McGue, 1992; 1994; McCormack et al., 2009). For example, these children are at increased risk for difficulties with reading (Anthony, Aghara, Dunkelberger, Anthony, Williams & Zhang, 2011; Leitão & Fletcher, 2004; McLeod et al., 2017) and are more likely to require additional support at school (Felsenfeld et al., 1994). Children with speech sound disorders experience frustration (McCormack, McLeod, McAllister & Harrison, 2010) and are more likely to be bullied (Sweeting & West, 2001). They have been reported as experiencing the world in two significantly different ways, being at ease when at the home or when with those close to them, while being more reserved and withdrawn when in public spaces (McLeod, Daniel & Barr, 2013).

Children with speech sound disorders benefit from targeted interventions to increase their ability to produce speech sounds, resulting in increased intelligibility and acceptability within social situations. Over 40 interventions have been demonstrated to be effective in ameliorating speech sound disorders (Baker & McLeod, 2011). Most focus on children's production and classification of speech sounds and most require ongoing specialist intervention from a speech-language pathologist. Speech-language pathology services are integrated into children's educational programs in countries such as the US (Giangreco, Prelock & Turnbull, 2010) and the UK (Department for Education, 2008). However, there are limited speech-language pathology services in many Australian schools (Commonwealth of Australia, 2014; McLeod, Press & Phelan, 2010) and parents have indicated difficulties accessing specialist support their children in education and health settings (McAllister, McCormack, McLeod, & Harrison, 2011; Ruggero, McCabe, Ballard & Munro, 2012). Even within the UK, where specialist services are available in schools, access to appropriate services can be difficult. For example, Paradice and Adewusi (2002) interviewed 51 parents in the UK about support provided by teachers and speech-language pathologists within the educational context and summarized their findings by saying "the education provided for their children depended not so much on 'need' as on luck and how hard they could fight for their children" (p. 257).

Children's frustrations with communication in public settings, strategies children adopt to assist in communicating with others, and avoidant behaviours including withdrawal in public environments have been reported previously (McLeod, Daniel & Barr, 2013). In that study, parents reported that in public contexts, they needed to be protective of their children in response to the reactions of others, particularly in relation to their children's social and emotional wellbeing. The paper also reported the frustrations experienced by parents in accessing speech-language services in the Australian health context. Parents reported a lack of accessible publicly funded services and long waiting lists for both public and private speech pathology. The impacts on families and siblings of children with speech sound disorders have also been reported in papers by Daniel and McLeod (2011), and Barr, McLeod, and Daniel (2008). In the current paper we focus specifically on education and schooling related experiences of these children and their families, and the implications for teachers and teacher educators.

Learning in Contemporary Classrooms

Learning in contemporary western education systems emphasises constructivist learning principles which mobilise student interaction, predominantly through spoken communication, as a central tool for learning. Based on the works of Lev Vygotsky (1934/1986), constructivist learning is described as "...being embedded within social events,

and occurring as a child interacts with people, objects, and events in the environment" (p. 287). Exploratory talk between students, and students and teacher, is acknowledged for "...its capacity to promote intellectual development and educational attainment has gathered momentum in recent years as various studies have demonstrated the key role social collaboration plays in the joint construction of knowledge, understanding and learning" (Gillies, 2014, p. 63). Implemented in group-learning processes, such as cooperative learning pedagogies, contemporary classrooms engage these constructivist principles in the learning environment, with classroom talk forming a crucial role in these interactions (Johnson, Johnson & Holubec, 2008; Slavin, 2011).

Language, including an emphasis on oral language, then, is privileged in constructivist learning and teaching (Gillies, 2014; Mercer, 2008), and central to learning in contemporary classrooms (Eke & Lee, 2008). The engagement of spoken language in a central pedagogical role in the learning environment means that children with speech sound disorders may face particular challenges. An understanding of these challenges is therefore important for those supporting learning engagement and educational outcomes of children with speech sound disorders in contemporary classrooms.

Aims

Current research in the area of speech sound disorders is mainly focused on the efficacy of intervention strategies for use by speech-language pathologists (Baker & McLeod, 2011). Research in the school context is necessary for informing the development of classroom practices that promote a positive learning environment and provide learning experiences that enable inclusion of children with these needs. This research aimed to investigate the learning and schooling experiences of children with speech sound disorders in order to identify ways in which parents, teachers and other professionals might support these children's functioning and learning in schools in a context where speech-language pathology services are not integrated within the educational system. Specifically, what can educators learn about the schooling experiences of children with speech sound disorders?

Methodology and Methods

Participant Recruitment

Following approval from the Charles Sturt University Human Research Ethics Committee, potential focus children were identified using purposive sampling. Purposive sampling provides the researchers with participants who have a deep knowledge or experience of the focus of study (Oliver, 2006; Patton, 1990). Potential participants were selected to provide "the most relevant and plentiful" data that could only be attained from individuals with first-hand experience (Yin, 2011, p. 88). In this research, parents of the focus children self-identified as being suitable participants by contacting the researchers following media publicity. Additionally, potential participants were identified through contact with families who were already known to the researchers.

Participants

The participants in this research were six focus children with speech sound disorders (5 males and 1 female), along with their parents ($n = 8$), siblings ($n = 6$), friends ($n = 6$), one of the children's cousins, and a significant adult in the focus children's lives (2 grandparents

and one family friend), all nominated by the focus children's parents (see Table 1). Three of the children's teachers agreed to be interviewed for this research following consent from the child's parents. Thus, a total of 34 participants (six focus children and 28 family, friends and teachers) took part in the research (see McLeod, Daniel & Barr, 2013). The sample is reflective of children with speech sound disorders; the predominance of boys in our sample is reflective of the significantly higher proportion of boys compared with girls diagnosed with speech sound disorders (McLeod et al., 2017). In this paper we draw on interviews with the children, parents and the three teachers to focus specifically on the schooling related experiences of the six focus children.

The six focus children were all in the early years of formal schooling, aged between 5 and 9 years of age. All of the focus children were identified by their parents and verified by a speech-language pathologist as having speech sound disorders of unknown origin, and of varying severity from mild to severe. Three also had mild hearing loss or language impairments. None were identified as having a cognitive disability. Pseudonyms are used to protect their identity (see Tab. 1).

Children	Sex	Age	Area(s) of difficulty	Interests	Significant others
James	Male	6-years-old	Mild speech sound disorder (particular difficulty producing multisyllabic words) and moderate expressive language impairment	Playing computer games, playing with friends, construction and sport	Mother, Brother (aged 8), Brother (aged 2), Friend (aged 6), Teacher
Paul	Male	6-years-old	Moderate speech sound disorder and a mild expressive language impairment	Construction, art, playing computer games, playing with his friends, imaginative play, and maths	Mother, Father, Brother (aged 11), Friend (aged 6), Family friend (adult)
Lucie	Female	9-years-old	Mild speech sound disorder particularly with /s/ consonant clusters (e.g., <i>spider</i>)	Art/drawing, playing with friends, playing computer games, imaginative play and sport	Mother, Friend (aged 9), Friend (aged 8)
Luke	Male	8-years-old	Severely unintelligible speech (suspected childhood apraxia of speech)	Drawing, shopping, construction, playing with his friend and sport	Mother, Sister (aged 14), Grandmother, Cousin, Friend, Teacher
Joshua	Male	5-years-old	Moderate speech sound disorder, severe receptive language delay, moderate expressive language delay, and mild stutter	Computer games, sport and imaginative play	Mother, Father, Sister (twin), Grandmother, Friend (aged 8), Teacher
Victor	Male	8-years-old	Moderately unintelligible speech (suspected childhood apraxia of speech)	Playing with his brothers and friends, construction, and playing computer games, handwriting, math and sport	Mother, Brother (aged 12), Brother (aged 9)

Table 1: Children with speech sound disorder and their significant others.

Instruments

Qualitative research uses semi-structured interviews to gather rich descriptions of participants' experiences and the meanings they make of these experiences to develop an

understanding of the phenomenon as a human experience (Seidman, 2013). The role of the interviewer is to encourage a detailed description of the participants' experiences and their reflections on these experiences by remaining neutral and non-directive, listening attentively to what is being said, and asking open ended questions that prompt richer responses from research participants (Seidman, 2013).

Data were gathered through semi-structured interviews with participants who had lived experience in relation to children with speech sound disorders. Semi-structured interviews use questions to stimulate free-flowing conversation, encouraging participants to discuss experiences and observations relating to the area of research focus (McMillan, 2008). Interview questions for this research were based on questions provided in the Speech Participation and Activity Assessment of Children (SPAA-C) (McLeod, 2004). The SPAA-C provides a series of questions for researchers and other professionals to use in interviews to better understand the experiences of children who have difficulty speaking, "and the contexts in which they live" (McLeod, 2004, p. 79). Different questions are provided within the SPAA-C for children, siblings, friends, parents, teachers, and others. For example, the questions to friends includes "What do you like doing together?" and "Is there anything your friend has trouble with?" The SPAA-C questions are based around the World Health Organization's concept of Activities and Participation (WHO, 2001), and the SPAA-C has previously been applied for use by speech-language pathologists in understanding the impact of children's speech and language difficulties on their lives (McCormack et al., 2011).

In addition to the interviews, the focus children completed a pictorial Likert scale questionnaire, also drawn from the SPAA-C, to rate their feelings and perceptions in relation to the impact of speech sound disorders in different aspects of their lives, for example: "How do you feel about your talking? ☺ ☹ ☸ ○ ?" To avoid altering their existing relationships, interviews with other child participants focused on the strengths and interests of the children, with only one stimulus question asking in general terms if there was anything with which their friend/sibling had difficulty (Daniel & McLeod, 2011). The parents of each child were also asked to provide recent speech-language pathology assessment reports in order to assist the researchers' understanding of the children's speech and language status.

Procedure

On contact with potential participants, an introductory letter and summary of the research aims and procedures, samples of the questions to be answered, and copies of the consent documents were provided for their consideration. Families were provided with copies of these invitation packages addressed to each participant category (e.g., teacher or friend) to use in identifying other participants relating to the child for interview. Once the family had gained consent from these additional participants, all signed documents were returned to the researchers and arrangements were made for the interviews.

Interviews with the focus children and their parents were conducted in the family home where they were comfortable and not in a public space. Interviews with other participants were conducted at a place of their convenience, such as their school, work office or home. At the beginning of the interview process, participants were asked to confirm their consent as participants in the research. For child participants, signed parental consent was gained, and the children co-signed a child-friendly version of the consent form to indicate their assent (Harcourt & Conroy, 2005) following a child-friendly explanation of the expectations of their participation. At least one parent was present during all interviews with child participants. The interviews took between 20 and 40 minutes, and recordings were later transcribed for analysis.

Positioning the Researchers

The research was cross-disciplinary with the first author being an Australian academic with a background teaching in the early years of school and the second author being an Australian academic with a background in speech-language pathology and early childhood. With these professional backgrounds, both researchers brought a strong child and family-centred focus to this research, and a dedication to the promotion of achieving the best outcomes for all children.

Analysis

The aim of analysis in qualitative research is to develop an understanding of the complexities of the participants' experiences from the participants' perspective (Yin, 2011). Analysis of the data was carried out using an interpretivist approach that involved a "systematic search for meaning" (Hatch, 2002, p. 148) whereby "patterns, themes and categories ...emerge out of the data" (Patton, 1990, p. 390). Yin (2011) suggests that high quality qualitative data analysis involves a "five phased cycle": compiling the data, disassembling, reassembling, interpreting, and concluding to move beyond a descriptive analysis of the data to identify the meanings behind these experiences.

Following transcription the interview data were compiled for each focus child. These data were analysed for individual pieces of text containing information pertinent to or providing significant insights into the children's experiences (disassembly), or what Johnson and Christensen (2010) refer to as "meaning statements" (p. 387). In the reassembly phase, categories were developed by identifying "recurring regularities" (Guba, 1978, p. 53) across the meaning statements representing common experiences, as well as identifying categories to represent individual experiences that provided unique insights into the phenomenon (van Manen, 1990; Yin, 2011). Connections within and between categories were then considered in order to develop an in-depth description (interpretive phase), where the researchers sought to identify "causal events contributing to the phenomenon; descriptive details of the phenomenon itself; and the ramifications of the phenomenon under study" (Hoepfl, 1997, n.p.). Constant reference to the original data, to ensure the inclusion of all meaning statements and to enable the exploration of alternative explanations provided credibility, "accuracy and robustness" to the analysis (Yin, 2011, p. 199). The implications of these findings formed the basis for the research conclusions and recommendations.

Results

Communication in the school environment presented particular challenges for children with speech sound disorders, and for their parents and teachers in meeting the children's learning needs. The children's speech sound disorders affected their confidence and participation in classroom learning experiences. Additionally, there were indications of the impact of the children's speech sound disorders on their educational progress. The children's educational experiences also concerned their parents as they endeavoured to support and promote their children's learning outcomes, and concerned their teachers in meeting the needs of these children and their families. The voices of these parents, teachers, children, and others in their lives tells a story of uncertainty, agency, and mostly failed advocacy. These difficulties and concerns are presented below with a focus on challenges for

the children, challenges for parents, and challenges for teachers, and are discussed in relation to the main challenges identified for or by each participant group.

Challenges for Children

The schooling environment presented the children with a range of challenges. The children were reported by their parents and teachers as having lowered self-confidence in school and reduced engagement in learning activities, particularly those involving spoken language. Class presentations were particularly difficult for many of the children.

Self-Confidence

All of the participants were reported to experience reduced self-confidence in the school context in general, or in particular learning activities within the classroom. This was mostly reported by parents, although Joshua's teacher also identified that she was working "to build his self-confidence". Paul's parents noted that he was less confident when speaking with others, stating that compared to his friends, he spoke: "A lot less. A lot less. And [with] a lot less confidence in what he's actually saying". Paul's mother and father identified the effect of his lowered self-confidence on his self esteem as being the biggest impact of having a speech sound disorder on Paul's life. When asked about their aims for their children, Joshua's parents identified that their hope was to increase Joshua's self confidence. To promote this, they had enrolled him in martial arts. Victor's mother identified her aims for him "...to be confident in his speech, but more [confident in his] reading". Luke's mother related his learning and social difficulties at school to his lack of self-confidence: "It's a confidence thing at school. It's a big confidence thing at school ... he isn't confident at school".

Participation in Classroom Learning Activities.

The focus on engaging students in classroom discussion within contemporary learning theory and practice was concerning for teachers and parents due to the observed withdrawal from interactions with other students, as well as the limitations of their speech on their engagement in discussions. Several of the parents in the study were concerned about the educational implications of their child's speech sound disorders. Teachers of two of the focus children noted the children's reduced participation in the classroom in activities that involved verbal responses and student discussion. Joshua's teacher reported that Joshua did not join in classroom question and answer sessions, and did not raise his hand so that he was not called on to respond, noting "he wouldn't answer unless I call upon him ... so it limits his participation in class". Joshua's teacher observed that he "would avoid situations where he has to talk to somebody else". James' teacher reported that his lack of confidence limited his participation in verbal conversations as well as contributing in class, but that he did "occasionally but ... very infrequently" contribute to class discussions. Luke's teacher observed that "as far as participation goes, his participation is at a different level to all the others". James' mother also reported that it was: "hard for him to sit still and talk to someone because it probably makes him feel uncomfortable". James' mother thought that his withdrawal from interaction with others "... certainly is limiting him" in school, and thought that along with shyness, "this was his biggest effect of the speech disorder". When asked how

they felt about talking in class, the children too indicated their discomfort. Luke stated that he didn't like to speak in class as it made him "sad" ☺ and "nervous".

The children's reluctance to speak in front of others was particularly difficult when required to speak in front of the whole class. Lucie's mother reported that she was currently "trying to get out of" a presentation in class and stated that the more people in the audience, "the less confidence" Lucie held, although she was confident in less formal social situations. Paul's parents reported that he found the idea of presenting to his classmates challenging. Paul's father said the he "could never see him getting up in front of a group and talking". Paul's mother agreed. James' teacher reported "there was an oral presentation and James just didn't want to do it". His parents discussed this with his teacher, and they agreed not to push him at this stage. Victor had refused to do a talk in his class and his mother reported: "He just would not get up in front of the class" Victor also expressed this, explaining: "I['m] not good at speaking at my class". In contrast, Joshua, in his first year of school, did present news in class on his news day. Luke, who had the most severe speech sound disorder of the focus children, had also presented a talk for his class. His teacher reported that this was a successful experience because they had practiced together:

"...he actually wanted to stay in at recess and finish it with her. Once he started. He didn't lose it, he practiced it and got up and did it in front of the class."

A further challenge for teachers during class presentations was to ensure the other children did not cause additional discomfort for the child presenting, inadvertently or deliberately. Joshua's presentations of news went well, though his teacher was careful because "some of the more dominant type personalities have discovered that they can upset him". When Victor spoke to the class, his mother said the children had asked "why can't you speak properly?" and "we can't understand you". Similarly, Luke's teacher gave an example of these issues with classroom presentations:

"When he did his speech thing in front of the class, which I thought he did really well, there were a couple of little sniggers so there were a few dragged out and hauled across the coals."

Learning Outcomes

Previous research has identified children with speech sound disorders have an increased likelihood of experiencing reading difficulties (Anthony, Aghara, Dunkelberger, Anthony, Williams & Zhang, 2011; Leitão & Fletcher, 2004; McLeod et al., 2017). Literacy was the main area of concern for all participants, except Lucie, the child with the mildest speech sound disorder, who was reported by her mother as being "well within her year level or above". Several of the children, their parents and teachers nominated aspects of literacy when asked what they found hard at school, and a few linked this directly to the children's speech difficulties. Joshua and Paul, who were in their first year of school, were identified by their parent or teacher as already having difficulty with reading. Joshua's teacher stated "he's in my lowest reading group, which are the children that are just starting to put it together". Paul's mother was concerned that he was "a little behind" his class in his reading progress, as he was still having trouble learning the letters of the alphabet. Paul's mother commented:

"... he hasn't even got the foundations ... I find it a little upsetting when they're doing ... one letter for a week... and then he still can't recognize it".

The two older boys, Victor and Luke, were described by their parents as being significantly below their grade level in their reading ability. Victor's mother described his reading as her "main worry" for him. Victor, himself, also nominated literacy and reading as being particularly difficult. In response to the question "what's hard at school?" was "Doin'

literacy, literacy... readin". Luke's teacher also commented that he was "...way below" in his reading:

“...he knows [reading’s] difficult for him ... and it’s really an effort to coax him up and get, get him to have a go at it... He’s way below [his peers] ... he’d still be in very, very early stage one [first year of school].”

Despite Paul's problems with reading his father reported that Paul's writing was "...better than his pronunciation." Luke, however, had trouble with both reading and in written expression. Luke's mother stated "Learning to read and write is so difficult. But his handwriting is so neat." James's teacher identified his reading as being "a fraction above average"; however, he was experiencing difficulties with his writing skills:

“One area where it really shows is his writing... not separating the words well. He really tries hard”.

Parents expressed concern about the longer-term implications of these problems for learning and achievement in other areas of the curriculum. Victor's mother recognised that his difficulties could be "limiting towards his education". Joshua's father, who worked in an industry that brought him into contact with adults with poor literacy skills, was also concerned about the "repercussions of not being able to have the basic skills...reading, writing, to express yourself".

Challenges for Parents

Supporting their children's progress in the schooling environment in the Australian state where this research was conducted was a challenge for most of these parents. The perceived lack of targeted resources in schools to support their children, and the need to identify and fund additional support outside the school was problematic for these families. The children's resistance to fully participate in activities in school, such as in class presentations, also caused concern for parents.

Lack of Targeted Specialist Support

One of the challenges for parents was in maintaining and supporting the children's speech and language development. The absence of embedded speech-language pathology services in schools meant that attendance at speech-language pathology sessions placed additional time and financial demands on families in accessing this external support, and involved the children in additional (outside of school) learning activities. These problems were made worse by a lack of private speech-language pathology services within their communities, and lengthy waiting lists for appointments in the community health system in their local areas.

James' parents had paid for some private speech-language pathology sessions, and at the time of the interview his mother reported that he had "just got to the top of the waiting list for the public system". Paul's parents had been able to get him into speech-language pathology at the local community health centre, though they felt it was no longer helping him after a while and so had ceased the visits. Victor, who was on a waiting list for publicly funded speech-language pathology, had recently been offered a place as they had had a cancellation, even though the community health service advised there were "28 ahead of you" according to Victor's mother. The service was, however, relying on the goodwill of a casual staff member who volunteered some support, rather than as part of the standard service.

In Luke's hometown, the local health service had contacted his mother to say that their speech-language pathologist had moved, and they were waiting on another to be appointed. As a single mother in a fixed income, Luke's mother had limited funds to access private speech-language pathology services.

Lack of Additional Learning Support in Schools

Beyond the lack of speech-language pathology services in children's educational programs in schools, additional resources to support learning for the participants were also limited. Although international research has shown that children with speech sound disorders are likely to need additional support in school (see for example Felsenfeld et al., 1994; Mullen & Schooling, 2010), parents, as well as teachers, reported limited support in their children's schools and classrooms. This was a source of further demand on parents' resources, and the cause of some frustration as they attempted to maintain the children's learning progress within the expectations of the curriculum.

Like the frustration expressed by parents in relation to the availability and accessibility of speech language services within the community (see for example McCormack, McAllister, McLeod, & Harrison, 2012; McLeod, Press, & Phelan, 2010; Paradice & Adewusi, 2002; Ruggero, McCabe, Ballard, & Munro, 2012), parents and teachers in the Australian context expressed frustration with the lack of available support resources within the educational program. With funding allocation based on severity, and limited funding allocations for additional support, funding may be allocated to children with more urgent sport needs, reducing the availability of funds to support the needs of children with speech sound disorders.

Joshua's teacher had recommended he be tested to see if he could qualify for some additional support from a specialist itinerant teacher, but had "just missed out" on qualifying as he had been "borderline on his last test" according to Joshua's mother. Reflecting Paradice and Adewusi's (2002) research in the United Kingdom, where access to speech-language pathology services in schools was found to be related more to luck and the strength of parent's advocacy for their children than the children's need, Joshua's teacher likened access to support services for his speech related learning needs as being like competitive selection for a sports team, stating:

“...he’s never going to get a guernsey [get additional support] with that. They need to be a lot more severe than he is”.

Victor's mother too identified that although Victor was experiencing reading problems, the school's resourcing did not allow for additional support, apart from for "a little bit of time" with the teacher's aide. Victor's mother was also frustrated with the lack of learning support available in the educational environment, something the Principal at her school confirmed:

“The kids with the ADHD they’re all getting their medication and their funding to get people, but Victor can’t read. It all impacts on everything else... and when I’ve gone to ... the principal...she said...I said we need to get so funding for Victor to get an aide in and help him. Oh, we don’t fund, have any funding for language, it all goes on the ADHD kids and everything”.

James' teacher was also frustrated with the lack of available resources to support his educational progress:

“If you look after the speech with James, there won’t be a problem with writing and he’s only year one. His reading’s good now, but long term we can’t expect this to be maintained.”

Victor's mother's comments, also expressed in the comments of the teachers of James and Joshua, indicate frustration with the limited access to resources that could support the children's educational development and outcomes, and express an experience of powerlessness against policies that leave parents and schools struggling to meet the needs of children with speech sound disorders.

The lack of additional learning support within the children's educational program caused additional time and financial burden on families. Victor's mother reported that to support his reading development, she was seeking outside support: "Well I'm trying to get him into an early intervention thing for his literacy". Paul's parents' concerns about his literacy, and reading in particular, had also led them to look for an opportunity for him to enroll in an early intervention program outside the school. The lack of support services associated with children's schooling had led Luke's mother to seek out a more suitable school in another state. With limited resources to access private speech-language pathology support, and limited provision of support within schools in her state of residence, Luke's mother was moving interstate to access a school that had a good reputation for working with children with communication disorders. That state also provided access to speech-language pathology services as part of children's educational programs.

"So that's why...my family and everyone is going to help me move to [interstate capital city] and I'll just come home of a weekend" (Luke's mother).

Luke's mother's agency is illustrative of the challenges of accessing resources necessary to meet his speech and learning needs. During the research project, Luke's family did move, and were on the waiting list for entry into their desired school. Luke continued to attend a local public school within the same state school system as previously enrolled while they were waiting for his enrolment to be accepted. Meanwhile, they were also waiting for a speech-language pathologist to be appointed by the local health service in order to access services in their new local area.

Challenges for Teachers

Promoting and supporting the educational development of children with speech sound disorders in schools also presented challenges for schools and teachers. In addition to meeting the learning needs of the children, and difficulties in accessing classroom and professional resources to support the children, teachers reported additional challenges in working with children with speech sound disorders, and in supporting their parents.

Maintaining Awareness of the Children in the Classroom Environment

The children's quietness and withdrawal in the classroom meant that the children could be overlooked in the teaching context. Joshua's teacher reported that his reluctance to verbally participate in lessons meant that "... he would be an easy child to overlook". According to his teacher, there was a need to consciously maintain an awareness of his engagement in learning activities. This awareness was necessary for Luke, though in his case it was due to an emerging problem with his behaviour on the playground. Luke, who had the most severe speech sound disorder of the participants, was reported by his teacher as beginning to express his frustration physically, which meant he was also finding himself in trouble at school. Luke's teacher had established procedures for him to have ready access to her during breaks, so that when problems arose he would be able to speak with her, since other teachers had trouble understanding his speech. Despite these strategies, Luke was still

engaging in aggressive behaviour in the playground. His mother was also concerned about his behaviour, and his mother related Luke's behaviour issues to his speech:

"I know his behaviour problems are due to his speech frustration, they always have been."

Curriculum and Pedagogical Challenges

Teachers, parents and some of the children identified challenges for all but one of the children around literacy. In line with other research (Anthony et al., 2011; Leitão & Fletcher, 2004), these concerns were particularly related to the children's progress in reading development, and the implications for learning progress. These delays present a challenge for teachers in supporting learning for children with speech sound disorders when language-based constructivist pedagogies are engaged. Developing an expanded awareness of the particular challenges faced by children with speech sound disorders in relation to literacy in teacher education and professional development courses, and developing an expanded repertoire of alternative and complimentary strategies to support the engagement of these students in learning and assessment activities, might support teachers' endeavours to provide equitable access for students with speech sound disorders to learning in the classroom. The development of these strategies through further research recommended in this paper will support development of more inclusive and differentiated pedagogies and practices.

Parental Reliance on Teachers' Expertise

One area of demand for teachers, which emerged in interviews with several of the children's parents, was a reliance on the awareness and expertise of school staff to assist parents in identifying the necessity for intervention. For three of the families, the children's teachers were significant in identifying the need for speech-language pathology assessments and intervention. In the cases of Joshua and James, it was their teachers in preschool settings that had identified their need for a speech-language pathology assessment, formal diagnosis and intervention planning. Joshua's parents had also relied on his kindergarten teacher to identify the need for additional speech-language pathology services once he commenced school. It was James' kindergarten teacher who had picked up his need for speech-language pathology:

"...she thought that he needed to be assessed because he wasn't speaking clearly" (James' mother).

Joshua's parents had not come to the realisation that his speech was a significant concern until being alerted initially by his preschool teacher, and later his kindergarten teacher. Joshua's parents had noticed that his twin sister's language was developing in advance of his, but had "always just thought that he was quieter and shyer". Although Joshua's parents "had an inkling" there may be a problem (Joshua's father), the need for intervention "...was pointed out to me when I went to preschool with him" (Joshua's mother).

After some speech-language pathology services prior to school, Joshua's family travelled for a year. This meant that he did not have therapy in the six months before commencing in his first year of formal schooling. On their return Joshua's parents were unsure of the need for additional therapy as they believed his speech had improved while they were travelling. His parents again relied on the school to identify if there was a need for further speech-language pathology services:

“I thought, well, I’ll leave it till school and see if they pick up again there’s a problem” (Joshua’s mother).

Victor’s parents were also alerted by his teacher of the need for his speech to be assessed by his kindergarten teacher. Victor had spoken to the class, and the children had commented that they did not understand what he was saying. According to Victor’s mother:

“This is how we found out that he did have a problem with his speech. He just would not get up in front of the class and they would say, you know, Victor, why can’t you speak properly? And, we can’t understand you.”

Discussion

This research indicates that children with speech sound disorders face a number of challenges in the school environment that impact on their development and education. While there were many examples of parents’ and teachers’ agency and advocacy, their attempts were not always successful and did not facilitate long-term benefits for (their own or other) children with speech sound disorders.

These findings present a challenge in meeting the United Nations Article 29 Aims of Education in society to “empower the child” through the development of children’s skills, supporting their learning, and promoting their dignity, self-esteem and confidence (UN, 2001). These results indicate that rather than supporting these children’s learning needs, schools, and the families of these children, experienced frustration in their endeavours to access and provide “equitable quality educational” experiences in pursuing these goals (UN, 2001, n.p.).

These findings have implications for policy, pedagogy and teacher preparation, and identify a need for coordinated advocacy on behalf of children with speech sound disorders, and their families, in the current educational context. By providing current and future teachers with the knowledge of the particular needs of children with speech sound disorders, teachers can be better prepared to meet their educational needs, understand the needs of families, and advocate for the necessary resources to support the achievement of more equitable outcomes.

Implications for Policy

The findings of this research indicate that speech sound disorders are an educational issue for children that require specific consideration in educational policy and practice. The restricted support available for children with speech sound disorders within the community and in schools, reported by the children’s parents and teachers, illustrates limitations within current policy (Commonwealth of Australia, 2014; McLeod et al., 2010). In meeting responsibilities, “to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities” (UN, 2006), there is a need to afford these children the resources required in meeting their functional and educational needs (UN, 2001). In particular in the context of this research, for increases in speech-language pathology services to meet the needs of children with speech sound disorders, and support in schools to assist them in maintaining their engagement in learning and other classroom activities in order to support their academic, social and emotional development.

Implications for Pedagogy

The indications of learning difficulties relating to the children's speech sound disorders emerging in the early years of education, particularly in the area of literacy, is reflective of existing research indicating that children with speech sound disorders may be at risk of lower literacy and educational achievement outcomes (Anthony et al., 2011; Leitão & Fletcher, 2004; McCormack et al., 2011). Addressing these issues requires not only specific resources, such as speech-language pathology, but pedagogical approaches that better meet these children's needs. The management of behaviours, such as withdrawal from interactions within learning activities involving spoken language also presents a pedagogical challenge for teachers where these interactions form the basis of teaching and learning practice.

Alternative practices to compliment the current emphasis on classroom-based talk in learning that can more effectively engage children with speech sound disorders in the learning process, and enable them to demonstrate their learning are necessary. Alternatives, such as poster presentations, and the use of digital media, as well as written learning products, may provide more accessible ways for these children to engage in these activities while their intelligibility improves. Additional learning support in the classroom, and support for parents in assisting at home also appear to be required to maintain the progress of these students.

Implications for Teacher Education

These findings indicate the need for classroom teachers to be aware of the specific needs children of with speech sound disorders, and to develop strategies to support their learning and development within the learning and school environment. As well as professional development for current teachers, teacher education courses need to build practitioner skills in identifying children with speech sound disorders, their support needs and strategies to build their skills and confidence in the educational environment. The findings of this research in identify the need for strategies to support literacy development, but also in particular around current pedagogies that emphasise the use of language in the learning process.

Skills that enable children with speech sound disorders to engage in learning activities, such as the inclusion of alternative communication and participatory activities provide a broader range of options for these students to participate more fully in these learning experiences. Building the skills of early identification and referral of children with speech sound disorders and developing practices that enable their participation in learning activities can prepare teachers in helping to address the apparent educational disadvantage associated with speech sound disorders (Anthony et al., 2011; Felsenfeld et al., 1994; Leitão & Fletcher, 2004; McCormack et al., 2011).

With current research indicating that teachers across the world are not well prepared for working with children with speech, language and communication needs (e.g., Dockrell & Lindsay, 2001; Forbes, 2008; Marshall et al., 2002; McLeod & McKinnon, 2010), and practicing teachers reporting that children with speech and language difficulties are one of the most challenging groups to work with (McLeod & McKinnon, 2010), it is important that preservice and practicing teachers are upskilled to meet these children's needs. As Florian and Rouse (2009) state:

The task of initial teacher education is to prepare people to enter a profession which accepts individual and collective responsibility for improving the learning and participation of all children (p. 596).

The experiences of these children, families and teachers indicate there is a need for ongoing professional development in schools. The findings that parents often look to the teacher to identify the need for speech-language pathology services confirm similar findings by McAllister et al. (2011). These findings also elaborate on Paradice and Adewusi's (2002) observations of parental reliance on the professional expertise of their child's teacher in identifying ways to support their children's educational development. Professional learning in preservice education programs, and ongoing professional learning in the particular needs of children with speech sound disorders will enable school staff to provide meet these expectations, and provide appropriate guidance for parents to support their child's educational experience and outcomes. These findings may also assist in explaining possible educational and schooling challenges children with speech sound disorders might face.

The parent-teacher relationship is widely accepted as critical in supporting children's educational development (Avvisati, Gurgand, Guyon & Maurin 2014; Daniel, Wang, & Berthelsen, 2016; Wilder 2014). The findings of this paper confirm the important role of this relationship in supporting parents as they endeavor to support and advocate for their children's needs. As an area of preservice education, "involving parents/guardians in the educative process" has been identified by early career teachers as an area where teachers do not feel well prepared (McKenzie, Weldon, Rowley, Murphy, & McMillan, 2014). Our findings reinforce the importance of these skills in supporting students with speech sound disorders and their families in schools.

The Need for Advocacy

The experiences of children with speech sound disorders, their families and teachers indicates a 'blind spot' in understanding their needs within the classroom, and provision of adequate support for these children in the classroom learning environment. With parents and teachers reporting that there are few resources available to support children with speech sound disorders in schools, there were additional time requirements from the children and parents in accessing this support outside the school. In addition, there were sometimes extensive financial costs for families as they sought this support through private providers. UNESCO has advocated that "All young people and adults have opportunities to acquire – supported by safe, gender-responsive and inclusive learning environments – relevant knowledge and skills to ensure their personal fulfilment and contribute to peace and the creation of an equitable and sustainable world" (UNESCO, 2014, p. 8). The educational implications for children with speech sound disorders indicate the need for coordinated professional advocacy in meeting these children's learning needs in the school setting, as part of these children's educational programs so that they can fulfil their potential.

Limitations

These findings are limited to the experiences relating to a small group of children with speech sound disorders in a single geographic area, and within the policy context of Australia. The repetition of this study in other contexts, or with a larger population is needed to corroborate whether these findings reflect those of other children with similar communication disabilities. These findings do, however, mirror comments of those who made submissions to an Australian Government Senate Inquiry (Commonwealth of Australia, 2014). As such, this paper identifies a need for further investigations to examine the effects of

speech sound disorders on children's educational and development and outcomes, and establish effective ways of meeting these children's learning needs.

Conclusion

Children with speech sound disorders face challenges to their learning in the early years of schooling. The role of spoken language in the contemporary learning environment, and difficulties in accessing speech-language pathology and learning support as part of their school program, means that school presents challenges for these children, and parents and teachers experience challenges in meeting their needs. This research has shown not only that the children felt isolated, parents disempowered, and teachers frustrated, but it provides poignant illustrations of how whole families are impacted and how much of their frustration results from their inability to comprehend the bureaucracy to which they are beholden. Increased awareness of the specific needs of children with speech sound disorders and of the challenges their parents face is needed to enable the provision of greater support as children and their families engage with school curriculum and learning experiences. There is therefore a need for current and preservice teachers to develop their awareness of the needs of children with speech sound disorders, and of strategies that might better meet these needs in the educational environment.

In this we advocate a multidisciplinary approach that positions speech sound disorders as both a health and educational responsibility, recognizing the educational implications of speech sound disorders and the need for additional school-based learning support including the provision of speech services as part of a holistic development program. Without professional awareness, skills development and speech and learning support services, schools, and society are not able to fully promote the development of children with speech sound disorders towards their potential. In meeting their needs, educators, and society, move towards achieving the aim of education to "empower the child by developing his or her skills, learning and other capacities, human dignity, self-esteem and self-confidence" (UN, 2001, n.p.).

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